EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	17339	ofdm	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 09:53
L2	42233	preamble	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 09:53
L3	2705	golay	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:03
L4	25	2 with 3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:48
L5	86	1 and 3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 11:01
L6	11	1 and 4	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 09:53
L7	107	"golay sequence"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:11
L8	460293	complementary	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:11

L11	154	3 near2 8	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:13
L12	39	7 and 11	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:14
L13	20	7 same 11	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:14
L14	1925	375/260.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:49
L15	1480	370/208,210.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:51
L16	289	370/295.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:51
L17	3536	14 or 15 or 16	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:51
L18	5815	ifft	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:51

L19	62	3 and 18	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:52
L20	22	17 and 19	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:55
L21	17	3 with 18	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:55
L22	23534501	@ad<"20021203"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:56
L26	76	7 and 22	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 10:57
L27	26	5 and 22	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 11:01

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» **Key**

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IEEE CNF	IEEE Conference Proceeding
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☐   1. **Preamble design for channel estimation in MIMO-OFDM systems**
Changho Suh; Chan-Soo Hwang; Hokyu Choi;
Global Telecommunications Conference, 2003. GLOBECOM '03. IEEE
Volume 1, 1-5 Dec. 2003 Page(s):317 - 321 Vol.1
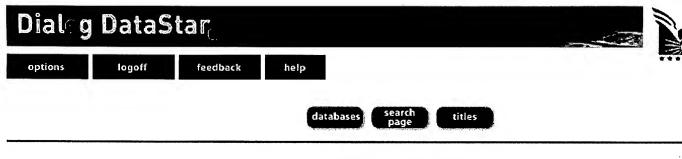Digital Object Identifier 10.1109/GLOCOM.2003.1258253

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Title
    Preamble design for channel estimation in **MIMO-OFDM** systems.
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    Publisher: IEEE, Piscataway, NJ, USA.
Author(s)
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Author affiliation
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Abstract
    A maximum-likelihood (ML) channel estimation and **preamble** design rules for the multiple-input-multiple-output (MIMO) channels are described when orthogonal frequency division multiplexing **(OFDM)** is employed with null subcarriers at both DC and high frequencies. The ML channel estimator in the time domain is derived assuming the knowledge of the maximum length of channel. To reduce the mean square error (MSE) of the estimation, three design rules are proposed: orthogonality between the preambles of different antennas, orthogonality between the circular shifted **preamble** sequences, and the condition that the number of subcarriers is larger than the maximum length of channel multiplied by the number of transmit antennas. In addition, we prove that the use of **Golay** complementary sequence (GCS) for **preamble** limits the peak to average power ratio (PAPR) by 3 dB although there are null subcarriers at high frequencies. Numerical results show that the MSE of the proposed method approaches that of optimum ML estimation when the number of null subcarriers and maximum length of channel are small.
Descriptors
    ANTENNA-ARRAYS; CHANNEL-ESTIMATION; LEAST-MEAN-SQUARES-METHODS; MAXIMUM-LIKELIHOOD-ESTIMATION; MIMO-SYSTEMS; OFDM-MODULATION; TRANSMITTING-ANTENNAS.
Classification codes
    B6150D Communication-channel-equalisation-and-identification*;

B6120 Modulation-and-coding-methods;
B0290F Interpolation-and-function-approximation-numerical-analysis;
B0240Z Other-topics-in-statistics;
B5270D Antenna-arrays;
B6250 Radio-links-and-equipment.

Keywords

channel-estimation; **MIMO-OFDM-systems;** maximum-likelihood-estimation; multiple-input-multiple-output-channels; orthogonal-frequency-division-multiplexing; mean-square-error; transmit-antennas; **Golay-** complementary-sequence.

Treatment codes

T Theoretical-or-mathematical.

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English.

Publication type

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Availability

CCCC: 0-7803-7974-8/03/$17.00.

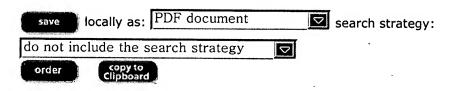**Publication year**

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L2	90	chae-chan-byoung.in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:02
L3	2705	golay	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:02
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L5	121	choi-ho-kyu.in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:02
L6	3	3 and 5	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:03
L7	43	ro-jung-min.in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:03
L8	2	3 and 7	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:03

L10	100	joo-pan-yuh.in.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:03
L11	3	3 and 10	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:04

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L2	1892	ofdm.clm.	US-PGPUB	OR	OFF	2007/06/14 13:04
L3	1587	preamble.clm.	US-PGPUB	OR	OFF	2007/06/14 13:04
L4	4	1 and 2 and 3	US-PGPUB	OR	OFF	2007/06/14 13:05
L5	110	2 with 3	US-PGPUB	OR	OFF	2007/06/14 13:05
L6	3	1 with 3	US-PGPUB	OR	OFF	2007/06/14 13:05

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L2	2705	golay	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:07
L3	11	1 and 2	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:07
L4	3155	370/509-515.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:09
L5	154	golay near2 sequence	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:10
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L7	16	2 and 4	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/14 13:11